IV. AMENDMENTS TO THE CLAIMS

1. (CURRENTLY AMENDED) A semiconductor device comprising:

a first semiconductor chip having an electrode terminal:

a second semiconductor chip having an electrode terminal:

a bump made of a first metal for joining said first and second semiconductor chips, said bump being provided on at least one of said electrode terminal of said first semiconductor chip and said electrode terminal of said second semiconductor chip; and

an alloy layer or a third metal layer formed on said bump where said first and second semiconductor chips are joined with each other via said bump, said alloy layer being made of an alloy of said first metal and a second metal,

wherein said second metal or said third metal layer is made of such a metal that can melt at a temperature lower than a melting point of said first metal ~~and be alloyed with said first metal~~,

wherein a second metal layer made of said second metal or said third metal layer is provided on a right surface and a side surface of said bump electrode made of said first metal, so that said first and second semiconductor chips are joined to each other via said alloy layer or via said third metal layer.

2. (CURRENTLY AMENDED) A semiconductor device comprising:

a first semiconductor chip having an electrode terminal:

a second semiconductor chip having an electrode terminal:

a bump made of a first metal for joining said first and second semiconductor chips, said bump being provided on at least one of said electrode terminal of said first semiconductor chip and said electrode terminal of said second semiconductor chip; and

an alloy layer or a third metal layer ~~having a lower melting point than that of said first metal~~ provided on said bump where said first and second semiconductor chips are joined with each other via said bump, said alloy layer being made of an alloy of said first metal and a second metal,

wherein said second metal or said third metal layer is made of such a metal that can melt at a temperature lower than a melting point of said first metal,

wherein said bump electrode is formed on said electrode terminal of one of said first and second semiconductor chips and a metal layer made of said first metal is formed on said electrode terminal of the other of said first and second semiconductor chips, so that said bump electrode and said electrode terminal are joined to each other.

3. (CURRENTLY AMENDED) A semiconductor device comprising:

a first semiconductor chip having an electrode terminal:

a second semiconductor chip having an electrode terminal:

a bump made of a first metal for joining said first and second semiconductor chips, said bump being provided on at least one of said electrode terminal of said first semiconductor chip and said electrode terminal of said second semiconductor chip; ~~and~~

an alloy layer or a third metal layer formed on said bumR where said first and second semiconductor chips are joined with each other via said bump, said alloy layer being

made of an alloy of said first metal and a second metal, wherein said second metal or said third metal layer is made of such a metal that can melt at a temperature lower than a melting point of said first metal, and

a detachable material portion provided on said bump where said first and second semiconductor chips are joined with each other via said bump, said detachable material having a second metal layer or a third metal layer which is a remaining one of said second metal or said third metal layer without alloying, or an alloy layer which contains more of an amount of said second metal than that of said first metal ~~being made of~~ such ~~a material~~ that said first and second semiconductor chips can be easily separated from each other at a temperature of 280ºC to 500ºC.

4. (PREVIOUSLY PRESENTED) The semiconductor device according to claim 1, 2, or 3, wherein said bump is formed on said electrode terminal of each of said first and second semiconductor chips, so that bumps of said first and second semiconductor chips are joined to each other.

5. – 6. (CANCELED).

7. (CURRENTLY AMENDED) The semiconductor device according to claim 1 or 2, ~~said~~ a joining portion where said first and second semiconductor chips are joined to each other has such a fillet formed thereon that is made of an alloy layer of said first metal and said second metal or said third metal layer.

8. (CURRENTLY AMENDED) The semiconductor device according to claim 1 or 2, wherein said first metal is Au and said second metal is Sn, so that said alloy layer is made of ~~joining portion has~~ an Au-Sn alloy.

9. (CURRENTLY AMENDED) The semiconductor device according to claim 1 or 2, wherein said third metal is made of an Au-Sn alloy.

10. (CURRENTLY AMENDED) A semiconductor device comprising:

a first semiconductor chip having an electrode terminal or said electrode terminal and a wiring connected to said electrode terminal;

a second semiconductor chip having an electrode terminal or said electrode terminal and the wiring connected to said electrode terminal; and

a low-melting point metal layer provided on the surface of said electrode terminal or wiring of at least one of said first and second semiconductor chips,

wherein said first and second semiconductor chips are electrically interconnected and joined to each other via said low-melting point metal layer so that said electrode terminal or wiring of the first semiconductor chip is face to face with said electrode terminal ~~or~~ and wiring, or a coupling wirings of the first and second semiconductor ~~chip~~ chips are face to face to each other.

11. (CURRENTLY AMENDED) The semiconductor device according to claim 10, said first and second semiconductor chips are joined to each other with a couple of wirings, and said low-melting point metal layer is provided on a ~~joining~~ portion of at least one of said couple of the wirings on which said first and second semiconductor chips are joined, further comprising:

a first insulating layer provided as interposed at a gap between said a

couple of wirings except at said ~~joining~~ portion.

12. (PREVIOUSLY PRESENTED) The semiconductor device according to claim 10, further comprising:

an insulating layer provided between said wiring and a passivation film on the surface of said semiconductor chip to flatten the surface of said wiring.

13. (PREVIOUSLY PRESENTED) The semiconductor device according to claim 10, wherein said wiring is made of an Au, which is provided so as to connect to said electrode terminal via a barrier metal layer, and

wherein said low-melting point metal layer is made of an Au-Sn alloy.

14. (PREVIOUSLY PRESENTED) The semiconductor device according to claim 10, wherein said wiring comprising:

a Cu wiring made of Cu formed simultaneously with said electrode terminal;

a barrier metal layer provided on said Cu wiring; and

an Au wiring provided on said barrier metal layer,

wherein said low-melting point metal layer is made of an Au-Sn alloy and is provided on said Au wire.

15. (PREVIOUSLY PRESENTED) The semiconductor device according to claim 10, wherein said wiring is made of Au formed simultaneously with said electrode terminal, and said low-melting point metal layer is made of an Au-Sn alloy.

16. (CURRENTLY AMENDED) The semiconductor device according to claim 8 or 9, wherein said Au-Sn alloy ~~constituting said joining portion~~ has an Au-rich composition containing at least 65 weight-percent of Au.

17. (CURRENTLY AMENDED) The semiconductor device according to claim 8 or 9, wherein an Au-Sn alloy layer ~~of said joining portion~~ has a thickness of 0.8μm or more and 5μm or less.

18. (PREVIOUSLY PRESENTED) The semiconductor device according to claim 1 or 2, further comprising:

an insulating resin layer provided at a gap between said first and second semiconductor chips joined each other to fill the gap, said insulating resin layer having nearly the same elastic modulus as said bump.

19. (PREVIOUSLY PRESENTED) The semiconductor device according to claim 1 or 2, further comprising:

an insulating resin layer having a thermal shrinkage factor of 5% or less, which is provided at a gap between said first and second semiconductor chips joined each other to fill the gap.

20. (CURRENTLY AMENDED) The semiconductor device according to claim 1, wherein a circuit element is formed in a semiconductor layer ~~at said~~ under a joining portion of at least one of said first and second semiconductor chips, said joining portion being a portion where said first and second semiconductor chips are joined.

21. - 24. (CANCELED).

25. (PREVIOUSLY PRESENTED) The semiconductor device according to claim 1, 2, or 3 wherein said bump is formed on said electrode terminal of one of said first and second semiconductor chips and a wiring is formed so as to be connected with said electrode terminal of the other of said first and second semiconductor chips, so that said bump and said wiring are joined to each other.